



NATIONAL GUARD BUREAU
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ARNG-CSG

23 September 2015

MEMORANDUM FOR The Chiefs of Staff of All States, Puerto Rico, the
US Virgin Islands, Guam, and the District of Columbia

SUBJECT: Possible Lead Dust Hazard in Army National Guard (ARNG)
Readiness Centers

1. References:

- a. Department of Defense Instruction (DoDI) 6055.01, Department of Defense (DoD) Safety and Occupational Health Program, 14 October 2014.
- b. Department of the Army Pamphlet (DA PAM) 40-503, The Army Industrial Hygiene Program, 2 April 2013.
- c. Occupational Safety and Health Administration (OSHA), Title 29 Code of Federal Regulations (CFR), Part 1910, Occupational Safety and Health, Subpart Z – Toxic and Hazardous Substances, Section 1025 – Lead.
- d. Occupational Safety and Health Administration Letter of Clarification of “as free as practicable” and lead contamination, 13 January 2003.
- e. United States Department of Housing and Urban Development (HUD), Title 24 CFR, Part 35, Lead-Based Paint Poisoning Prevention in Certain Residential Structures, Section 1320.
- f. Environmental Protection Agency (EPA), Title 40 CFR, Subchapter R – Toxic Substances Control Act, Part 745 – Lead-Based Paint Poisoning Prevention in Certain Residential Structures.
- g. American Conference of Governmental Industrial Hygienists Threshold Limit Values (TLVs) for Chemical Substances and Physical Agents, 2015.
- h. National Guard Regulation (NGR) 385-15, Policy and Responsibilities for Inspection, Evaluation and Operation of Army National Guard Indoor Firing Ranges, 3 November 2006.
- i. National Guard Pamphlet (NG PAM) 420-15, Guidelines and Procedures for Rehabilitation and Conversion of Indoor Firing Ranges, 3 November 2006.

2. Applicability. This guidance applies to all Federally owned and supported facilities. The hazards and risks are the same for State-owned facilities, and States are encouraged to implement risk management procedures and protect Soldiers, Families, and the public.

3. Background.

a. In order to protect our Soldiers, their Families, the civilian workforce, and the general public, the ARNG shall comply with all applicable statutory and regulatory occupational safety and health standards, as required by DoDI 6055.01 and DA PAM 40-503.

b. Required periodic industrial hygiene surveys have identified lead dust in many ARNG Readiness Centers. This dust is residue from our active or former indoor firing ranges, weapons cleaning/maintenance/movement/storage, other maintenance operations, or outside environmental factors such as high levels of lead in soil and ambient air, resulting from nearby industrial processes.

c. Personal exposures to lead can occur through ingestion, inhalation, and dermal contact, and can result in growth disorders as well as damage to the nervous system, kidneys, and reproductive system. Exposure to lead is more dangerous for young and unborn children than for older children and adults.

d. Lead dust may be ingested by hand-to-mouth activities such as eating, drinking, or smoking. Children's activities, such as crawling on the floor and inserting their hands and other objects into the mouth, will also lead to hazardous ingestion. Surface wipe sampling is used to identify and quantify lead on surfaces, which may be ingested as described above.

(1) While OSHA does not publish a statutory limit for acceptable surface levels of lead, they have published an interpretation of the "as free as practicable" requirement to be less than 200 micrograms of lead per square foot ($\mu\text{g}/\text{ft}^2$) for the occupational setting.

(2) The DoD addresses lead dust contamination (in the appendix to Enclosure 4 of DoDI 6055.01) in this way: "...ensure surfaces are as clean as practicable irrespective of measured airborne exposure."

(3) While the 200 $\mu\text{g}/\text{ft}^2$ surface dust level is adequate to protect our Soldiers and workforce in an occupational setting, there is a more stringent standard of 40 $\mu\text{g}/\text{ft}^2$ for children and adults in non-occupational civilian settings. This is used by both HUD and the EPA as the Federal threshold for lead contamination in dust for risk assessment and clearance testing.

(4) Because the families of our Soldiers and the general public are welcomed into our ARNG Readiness Centers for various functions and activities, the 40 µg/ft² threshold for lead contamination in dust shall apply to all publically accessible areas.

e. While lead dust poses a minimal inhalation hazard when left undisturbed, it may re-enter the air if vacuumed, swept, blown, or otherwise disturbed, and may then pose an increased risk.

(1) Personal air sampling is the standard method used to quantify any potential inhalation hazard from chemical substances (e.g., lead).

(2) The analytical results obtained from air sampling are weighted over an 8-hour time period, and as required by DA PAM 40-503, they are compared with the more protective established limit from either:

(a) The Occupational Safety and Health Administration Permissible Exposure Limits (29 CFR 1910), or

(b) The American Conference of Governmental Industrial Hygienists TLVs.

f. Inorganic lead is not readily absorbed through the skin, so dermal contact and absorption are not considered a risk to the general population.

4. Indoor Firing Ranges (IFRs) in ARNG facilities fall into one of the following four classifications of use:

a. Active IFR – The range is used, or can be used, for the approved purpose. The IFR must be maintained and operated in accordance with the criteria outlined in NGR 385-15. Report both the predominant design usage and the predominant current usage in the Planning Resource for Infrastructure Development and Evaluation (PRIDE) as 17121. The utilization rate will indicate whether the facility is actually in use as an IFR.

b. Nonfunctional IFR – The IFR has been removed from active use, and has not been successfully cleaned and converted. Appropriate signs are posted in accordance with NGR 385-15; the room shall not be used for any purpose and will remain locked in order to prohibit access until such time as a conversion project is completed. Report both the predominant design usage and the predominant current usage in PRIDE as 17121. A utilization rate of zero would indicate that the space is not in use.

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c. Closed IFR – The IFR was removed from active use, successfully cleaned, and converted in accordance with NG PAM 420-15, and has been verified as having acceptable surface lead levels by an ARNG industrial hygienist (Office of Personnel Management (OPM) 0690 job series). Surface wipe samples will be collected from this facility annually to ensure the encapsulant barrier is maintained. The acceptable level for these annual wipe tests is 40 µg/ft². Report the predominant design usage in PRIDE as 17121. The current usage code will be changed to reflect the new use-designation of the space. The utilization rate will indicate whether the space is actually in use.

d. Disposed – The facility containing the IFR is no longer accountable by the ARNG due to demolition or turnover to another entity. Monitoring requirements by the ARNG cease, and are passed on to the new owner unless the facility has been demolished.

5. Policy.

a. Identification and Recording.

(1) Commanders, leaders, and managers in all States, Territories, and the District of Columbia shall identify any space that is currently or was formerly an IFR.

(a) Facilities with an IFR, regardless of previous efforts to convert, must be evaluated by Industrial Hygiene to determine and identify any potential lead hazards to ensure correct and cost-effective mitigation efforts are completed. This evaluation must be in-depth and include all spaces within and exterior to the facility (i.e., occupied spaces, crawl spaces, ventilation systems, roof areas, kitchen areas, and facility property areas).

(b) Ensuring occupant health, limiting ARNG's liabilities, and properly executing funds are the highest priorities. Facility evaluations and remediation activities must include an ARNG industrial hygienist (OPM 0690 job series) resourced to make certain these priorities are at the forefront.

(2) The identified IFRs will be reported to the State's Occupational Health and Safety personnel and the Facilities Management Office (FMO). The FMO will maintain data on IFR in the PRIDE database, in accordance with instructions from the ARNG Installations Division. Enclosure 1 with this document contains field-specific information to assist with entry into PRIDE.

b. Procedures for ARNG Readiness Centers Containing an Active IFR.

(1) Immediately:

(a) Discontinue public rental of the facility containing the Active IFR.

(b) Prohibit Family members, the general public, and pregnant women from entry into the facility, only allowing access to Soldiers, employees, and official business visitors.

(c) Post signs that state "Danger – Lead Hazard Area" and "Pregnant Women Not Permitted," as required in NGR 385-15.

(d) Ensure all employees in the facility receive lead hazard awareness training consistent with 29 CFR 1910.1025, Appendix B.

(2) In any State, Territory, or District that identifies an Active IFR, commanders, leaders, and managers should assess the mission need, potential health risks, and costs necessary to clean and maintain an IFR. Costs to periodically clean the entire facility where the IFR is located and operated must be included in the calculation.

(a) The ARNG does not support the use of indoor firing ranges, as they do not meet training requirements as published in DA PAM 350-38. Furthermore, the use of Federally procured ammunition for training strategies or courses of fire not required by DA PAM 350-38 is prohibited by Army Regulation 5-13.

(b) Any remaining Active IFRs will be maintained in compliance with NGR 385-15 and all other Federal, DoD, Army, and State regulations.

(c) Any Active IFRs closed will follow the guidance in Section 5, paragraph c. of this document.

(3) The industrial hygiene technician in the State, Territory, or District will collect annual lead wipe samples to confirm HVAC systems and make-up air units remain free of lead contamination, and monitor levels of lead migration throughout the facility. If the State does not have an industrial hygiene technician, ARNG Regional industrial hygiene personnel will assist with this, as funding permits.

(4) At a minimum, annually clean the areas of the building identified during the Industrial Hygiene lead migration assessments, following the guidance outlined in NG PAM 420-15.

(5) Verify that IFR exhaust systems are equipped with a filtration system to ensure all lead is removed from the exhaust stream prior to discharge.

(6) Ensure IFR HVAC systems are maintained in an Operations and Maintenance Program that includes periodic servicing.

(7) State FMO personnel will report both predominant design usage and predominant current usage in PRIDE as 17121. The utilization rate will indicate whether the facility is actually in use as an IFR.

c. Procedures for ARNG Readiness Centers Containing a Nonfunctional IFR.

(1) Immediately:

(a) Prohibit entry into, and seal and lock, the area containing the Nonfunctional IFR.

(b) Post signs that state "Danger – Lead Hazard Area" and "Pregnant Women Not Permitted," as required in NGR 385-15.

(c) Ensure all employees in the facility receive lead hazard awareness training consistent with 29 CFR 1910.1025, Appendix B.

(d) Completely block all exhaust fans and ductwork from the Nonfunctional IFR, to minimize the migration of lead dust.

(2) Determine the extent (if any) of lead contamination throughout the rest of the facility. Industrial Hygiene survey reports or lead wipe sample reports collected by the State, Territory, or District's industrial hygiene technician should be used for this determination. If the State does not have an industrial hygiene technician, ARNG Regional industrial hygiene personnel will assist with this, as funding permits.

(a) If lead surface contamination is confirmed above 40 $\mu\text{g}/\text{ft}^2$ (or is unknown), immediately suspend public rental of the facility containing the Nonfunctional IFR. Prohibit family members, the general public, and pregnant women from entry into the facility. Only allow access to Soldiers, employees, and official business visitors until proper housekeeping procedures are implemented and wipe testing confirms lead dust levels are below the 40 $\mu\text{g}/\text{ft}^2$ threshold.

(b) If all wipe sample results throughout the non-IFR portion of the facility are below the 40 $\mu\text{g}/\text{ft}^2$ threshold, public rental and facility entry may continue, as long as annual wipe sample results remain under the 40 $\mu\text{g}/\text{ft}^2$ threshold.

(3) Assess the IFR space to determine a plan of action and timeline for its rehabilitation and conversion.

(a) Identify any items stored in the IFR space, and work with Industrial Hygiene to incorporate their testing, removal, and disposal into the plan of action.

(b) Follow the guidance in NG PAM 420-15, and consult with the ARNG Regional industrial hygienists when developing the plan of action.

(c) Include the removal of all former range components (i.e., backstop, bullet trap, baffles, acoustic tiles, and land dividers) in the plan of action.

(4) Ensure the Nonfunctional IFR remains locked and sealed, and is not used for occupancy or storage of any kind. This area must remain vacant and locked until remediation activities are completed and the Nonfunctional IFR is successfully converted, and verified as having acceptable surface lead levels, by an ARNG industrial hygienist.

(5) State FMO personnel will report both predominant design usage and predominant current usage in PRIDE as 17121. A utilization rate of zero would indicate that the space is not in use.

d. Procedures for ARNG Readiness Centers Containing a Closed IFR.

(1) Ensure annual wipe samples are collected to monitor for deterioration of the encapsulant barrier. The acceptable level for these annual wipe tests is 40 $\mu\text{g}/\text{ft}^2$.

(2) Maintain effective housekeeping procedures to ensure any new lead contamination from other sources is maintained below the 40 $\mu\text{g}/\text{ft}^2$ threshold.

(3) Permit rental and Family visitation of the facility as long as lead dust wipe results are below the 40 $\mu\text{g}/\text{ft}^2$ threshold.

(4) If surface wipe sample results are above the 40 $\mu\text{g}/\text{ft}^2$ threshold, temporarily suspend facility rental; prohibit family members, the general public, and pregnant women from entering the facility; only allow access to Soldiers, employees, and official business visitors until proper housekeeping procedures are implemented and wipe testing by the State, Territory, or District's industrial hygiene technician (or ARNG industrial hygienist) confirms lead dust levels are below the 40 $\mu\text{g}/\text{ft}^2$ threshold.

(5) State FMO personnel will report the predominant design usage in PRIDE as 17121. The current usage code will be changed to reflect the new use-designation of the space. The utilization rate will be used to indicate if the space is actually in use.

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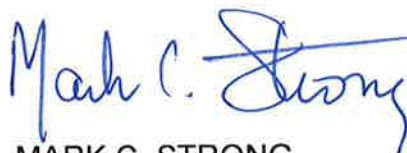
(6) These procedures will be completed until the facility is no longer on the ARNG inventory.

6. Specific points of contact for additional resources and more information are:

a. Facilities: Mr. Ray Barnard, Chief, Real Property Branch at
raymond.j.barnard3.civ@mail.mil or 703-607-7685.

b. Industrial Hygiene Support: Mr. Ken Forsythe, Chief, ARNG Industrial Hygiene at
kenneth.a.forsythe.civ@mail.mil or 410-942-0273, extension 104.

c. Range Team Chief: MAJ Nicholle Gousie, at nicholle.c.gousie.mil@mail.mil or
703-601- 7815.



MARK C. STRONG

COL, GS

Chief of Staff, Army National Guard

Encl

**Update the following fields in PRIDE for Indoor Firing Ranges.
Refer to ILI-E PRIDE user reference for additional detail.**

Field name	Notes
Facility Number	Enter facility number and append "IFR" to the end of the number (Example: 0001IFR).
RPA Name	Use the following: "Indoor Firing Range in RC"
RPA description text	Text field available for local use.
RPA Operational Status Code	Use one of the following status codes: ACTIVE, NONFUNCTIONAL, CLOSED, DISPOSED See Guidance above for definitions.
RPA Predominant Design Use CATCODE Code	This is the CATCODE the reflects the original use of the facility. (Use 17121 for indoor firing ranges)
RPA Predominant Current Use CATCODE Code	This is the CATCODE for the CURRENT use of the facility. ACTIVE or NONFUNCTIONAL status will be 17121. CLOSED will be different (reflecting the current use).
RPA Utilization Rate	Indicate the percent utilization (it is based on the CURRENT use). This will be used to show if the space is currently being used.
RPA Mission Dependency Code	See PRIDE guidance.
RPA 1354 Voucher Number	This will usually be none since the range was usually transferred as part of the whole building.
RPA Financial Reporting Organization Code	Normally the code for ARNG.
RPA Placed In Service Date	Date the facility was originally placed in service.
RPA Preponderant Using Organization Code	Usually ARNG.
RPA Command Claimant Code	Usually ARNG.
RPA Interest Type Code	See PRIDE guidance.
Asset Construction Agent Code	Usually state or USPFO.